



August 17, 2009

Ms. Patti Krause
Community Involvement Coordinator
EPA Region 5 (mail code SI-7J)
77 W. Jackson Blvd.
Chicago, IL 60604-3590

Re: Comments on EPA Proposed Plan for Ashland/Northern States Power Lakefront Site

Dear Ms. Krause:

Northern States Power Company, a Wisconsin Corporation, d/b/a Xcel Energy (NSPW) appreciates the opportunity to provide the United States Environmental Protection Agency, Region V ("EPA") its comments on the June 2009 Proposed Remedial Action Plan (PRAP) for the Ashland/NSP Lakefront Superfund Site ("Site"). NSPW has been working cooperatively with EPA, the Wisconsin Department of Natural Resources ("WDNR"), and the City of Ashland ("City") since 1995 to address Site contamination. In particular, NSPW has undertaken the following actions to date:

- Conducted comprehensive environmental studies since 1995, culminating in the Remedial Investigation/Feasibility Study ("RI/FS") and accompanying human health and ecological risk assessments for the entire Site;
- Performed several Interim Remedial Measures, which ensure protection of human health and the environment at the Site, including the removal of a tar well from the former MGP Site, installing and operating a NAPL and groundwater extraction system for the Copper Falls Aquifer, removing NAPL-impacted soil and installing/operating a NAPL extraction system at the former ravine's mouth;
- Reimbursed EPA and WDNR for oversight and response costs; and,
- Entered into a Framework Agreement in 2008 with the City and WDNR to advance mutual goals at the Site in a cooperative manner, such as:
 - Ensuring a cleanup that is protective of human health and the environment

- Starting remedial activities in an expeditious manner and in tandem with the federal regulatory process;
- Enhancing public awareness of and support for the project;
- Managing the sequencing of remedial and City redevelopment activities;
- Leveraging available grants and other funding sources for the City;
- Ensuring that the remediation is done in a technically feasible and cost-effective manner consistent with EPA and WDNR regulations; and
- Supporting the City's Waterfront Development Plan so as to promote a strong, sustainable local economy.

As a regulated and responsible public utility, NSPW has a duty to its ratepayers and the community at large to promote the selection of a remedy for the Site that is scientifically sound, environmentally protective, safe, prudent and cost-effective. It is our view, however, that the remedy proposed by EPA in the PRAP does not meet these goals and is noncompliant with the National Contingency Plan (NCP), EPA Guidance and the criteria for remedy selection in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Moreover, the PRAP lacks the detailed analysis required to support the remedy proposed by EPA. The PRAP also improperly defers several critical remedy selection issues to the remedial design stage in direct conflict with the process recommended by the Agency's own National Remedy Review Board (NRRB), and appears to have generally been rushed through.

In contrast, a more appropriate remedial alternative has been presented to EPA in the RI/FS and should be selected for the Site, along with relevant dredging Performance Standards. In particular, it is NSPW's view that:

- If EPA determines that sediments should be removed from the Bay (although Site data, proper scientific procedures, published literature, and other information indicate that removal is not appropriate), then such sediments should be removed via a conventional wet-dredging technique, not an experimental "dry" excavation approach, and dredging Performance Standards must be defined in advance for the remedial approach to be successful; and
- The groundwater at the site should be remediated through a combination of actions, including source removal, in-situ treatment (via oxidant injection), and through the use of a permeable reactive barrier wall, rather than through sole reliance on a long-term and ill-fated pump and treat system.

Based on NSPW's detailed review of the PRAP and knowledge of the RI/FS and associated risk assessment documents, it is our view that the remedy proposed by EPA in the PRAP is fatally flawed and it would therefore be scientifically unreasonable, and arbitrary and capricious for EPA to select the proposed remedy in the Record of Decision (ROD).

NSPW's detailed comments to the PRAP and its deficiencies are attached (see Attachment A), along with a description of the remedial alternative we believe should instead be selected by EPA in the ROD. NSPW also adopts and incorporates by this reference those comments submitted by

Burns & McDonnell, DCI Environmental, and Severson (the “Burns Team”) that specifically address the concerns and potential problems associated with the proposed implementation of a “dry” excavation sediment remedy as compared with hydraulic or wet dredging. Moreover, NSPW believes that the framework proposed by the Burns Team for a pilot test of wet dredging at the Site merits further consideration after establishment of realistic, science-based Performance Standards.

In summary, NSPW’s detailed comments (Attachment A) explain:

1. EPA has not conducted the detailed analysis required by the NCP and CERCLA in proposing the remedy presented in the PRAP.

The PRAP does not provide a detailed discussion or analysis of some of the critical elements of the NCP and CERCLA remedy selection process, especially given the significant scope and costs (on the order of \$80 million) of the remedy. For example, the PRAP does not provide a detailed explanation of how each of the alternatives was assessed using the remedy selection criteria. All Applicable Relevant and Appropriate Requirements (ARARs) are not identified, there is no discussion of To Be Considered (TBCs), and the remedial action objectives (RAOs) are extremely general and lack the required specificity. There is no discussion of the process that will be used for selecting contingent remedy options, no definition of the remedy implementation duration, and no detailed analysis of the risks to worker safety, community impacts, or remedy implementability – all critical and required elements of the remedy selection process. The lack of information and analysis presented in the PRAP is especially problematic given that it prevents the public from having an opportunity to effectively review, evaluate, and comment on the proposed remedy. In addition, EPA in many instances has completely ignored and/or summarily dismissed the recommendations of the National Remedy Review Board (NRRB), further confirming that the proposed remedy does not comply with either CERCLA or the NCP.

2. EPA has not presented a clear and/or scientifically defensible rationale for sediment remediation.

Although not clearly stated, EPA’s rationale for sediment remediation appears to be that: (1) shallow (or surficial sediments, typically the top 6 inches) pose an unacceptable risk to benthic (*i.e.*, sediment dwelling) organisms; (2) hypothetical risks to human health associated with surface water sheens are unacceptable; and, (3) NAPLs present in deep sediments are a Principal Threat waste. The PRAP utilizes a sediment preliminary remediation goal (PRG) for total polynuclear aromatic hydrocarbons (tPAHs), aimed at protection of sediment dwelling benthic organisms, as the basis for the proposed sediment remediation.

Overall, the sediment-related risks to human health and ecological receptors are hypothetical, not founded in sound-science, and are highly uncertain (acknowledged in PRAP, p. 7 and 8). For example, the human health risk associated with sheen concentrations utilized unrealistic exposure assumptions and concentrations (PRAP, p. 7). Use of more realistic exposure assumptions indicates that potential human health risks posed by sheens are insignificant. Regarding the issue of Principal Threat waste, NAPLs present in deep sediments are immobile

(buried by shallow sediments and the overlying water column – which has resulted in NAPLs being confined to a limited area of the Bay for decades) and pose insignificant risks to human health and the environment.

The sediment PRG for tPAHs is being misapplied, and proper application of the PRG indicates that surficial sediments in the Bay pose insignificant risks to benthic invertebrates because:

- Although the sediment PRG was derived as a function of sediment organic carbon content, the PRG as applied ignores the OC contents of sediments in the Bay and assumes that all sediments consist of low OC sands; and,
- The PRG is being applied to all sediments regardless of depth, even though it should only apply to surficial sediments (the top 6 inches) where benthic organisms actually reside.

This conclusion of insignificant risks to benthic organisms was confirmed by field surveys that found a thriving benthic community in sediments – further reinforcing the unreasonable nature of the proposed sediment PRG.

3. The sediment remedy selected by EPA is unsafe, unproven, potentially cannot be implemented, could result in negative environmental impacts, and is not cost-effective.

The “dry” dredging sediment remedial alternative selected by EPA poses significant risks to worker safety, the environment and the community, has significant implementability issues, is going to take approximately 1 to 2 years longer to implement (than the wet dredge alternative), and is not cost-effective. Although a proper assessment of risks indicates that removal of the sediments is unnecessary, in the event sediment removal is deemed necessary, the wet dredging sediment alternative is greatly superior to the dry dredge alternative and is fully compliant with NCP sediment selection criteria, unlike the dry dredge alternative.

The key safety issues associated with the dry dredging remedial alternative are attributable to the Site's setting (*i.e.*, on a Great Lake) and the large scope of the sediment dredging specified by EPA (on the order of 130,000 yd³). In order to implement the dry dredging remedial alternative, a retaining structure of significant size and strength has to be constructed to dewater and expose the sediments that need to be dredged. This is an extremely unsafe, multi-year proposition given the potential loading on the retaining structure from ice and other Lake Superior-related forces. In addition, dewatering of the Bay may breach the underlying aquitard, resulting in significant inflow of underlying “artesian” groundwater (referred to as “basal heave”) and causing potentially catastrophic failure of the retaining structure. Such catastrophic failure could result in significant loss of life and the mobilization of affected sediments into the relatively pristine portions of Lake Superior, causing greater environmental impacts.

The dry dredging approach will also require 1 to 2 years longer to implement (as compared to wet dredging), resulting in increased risks to worker safety and negative impacts to the community.

Although EPA did not conduct a rigorous comparative evaluation of short term risks associated with the implementation of dry vs. wet dredging, NSPW's evaluation indicates that the dry dredge remediation alternative selected by EPA poses a 23% greater risk of worker injury/fatality (not accounting for risk from catastrophic failure due to basal heave). NSPW's evaluation also indicates that implementation of the dry dredging sediment remediation alternative will result in a larger ambient air "plume" of hazardous pollutants (*e.g.*, benzene) and of malodorous gases (*e.g.*, naphthalene), potentially exposing community members to these pollutants.¹

The use of dry sediment remediation for a project of such size and setting is unprecedented. Typically, dry dredging is utilized in small streams and river settings, where the water can be readily diverted/controlled to conduct the sediment removal. The scale and safety issues discussed above are serious impediments that severely undermine the project's implementability.

Finally, based on the best information available to us to date, it appears that the dry sediment dredging alternative will cost between \$18 million to \$38 million more than the wet dredging alternative. Given that the wet dredging alternative meets the NCP/CERCLA threshold criteria for remedy selection and costs significantly less than dry dredging, the selection of dry dredging as the preferred alternative is arbitrary and capricious and inconsistent with the NCP and CERCLA.

4. The groundwater RAOs are not clearly defined and the groundwater remediation alternatives selected by EPA are inappropriate.

EPA has not clearly defined the groundwater RAOs. In the PRAP, EPA states that the purpose of the groundwater cleanup alternative "is hydraulic containment within the waste management area and restoration of the aquifer outside the waste management area" (p. 26). However, EPA's objectives are not clear or appropriate because:

- No definition of the "waste management area" is provided, hence the extent of the "containment" and "restoration" areas is unknown,
- Aquifer restoration, *i.e.*, groundwater remediation to meet drinking water standards or Maximum Contaminant Levels (MCLs), is unrealistic and unnecessary (experience at hundreds of sites across the nation indicates that the aquifer restoration goal is unattainable at most DNAPL sites, and, given the future expected uses of the aquifer, is also unnecessary); and,
- The ROD should include a provision to allow the use of monitored natural attenuation (MNA) in lieu of active hydraulic containment, once source concentrations have adequately attenuated because MNA is the cost effective and appropriate remedy at sites such as Ashland where the plume is stagnated and no future uses of the aquifer will occur.

¹ Note that odors are expected to be less of an issue in the wet dredge alternative because presence of the water column and high water content in the sediment minimizes odor generation, dredge rates can be controlled, and odor from excavated sediment can be minimized using spring structures. Odor control is much more difficult in the dry dredge scenario because a large area is exposed making emission controls challenging.

The EPA selected groundwater remediation alternatives for both the former MGP facility (Copper Falls Aquifer) and Kreher Park rely on active pump and treat (P&T) systems in conjunction with chemical oxidation and horizontal/vertical barriers. EPA's undue reliance on P&T systems runs counter to the abundant technical literature and recent EPA guidance clearly illustrating that such systems are ineffective at NAPL sites.

At the former MGP facility, EPA has recommended addition of a dozen P&T wells, without even conducting an analysis of the anticipated operational duration of such a system – a critical variable for P&T costs. NSPW recommends that the remedial alternative for the MGP facility should focus on source removal (using oxidant injection) rather than expansion of the P&T system (alternative GW-9B).

At Kreher Park, NSPW believes that the use of a permeable reactive barrier (PRB) wall (along the western edge of the Park) in lieu of groundwater P&T will result in a remedy that will be protective of public health and the environment, cost-effective, and better for the community. Use of a PRB wall instead of a P&T system will eliminate the need for an above ground water treatment system at the Lakefront and will also result in fewer property redevelopment restrictions – critical elements for the effective renewal of the Lakefront area. In addition, use of a PRB is much more cost-effective than P&T for achieving hydraulic containment.

5. Performance Standards and clear criteria for selecting contingent remedial options need to be defined in the ROD.

As recommended by the NRRB, clear, realistic, science-based Performance Standards need to be defined in the ROD and not left to the Remedial Design (RD). The PRGs defined as part of the RI/FS process are a starting point that need to be translated into practicable targets that can be met during remedy implementation. For example, the PRGs are risk-based values that need to be met on average over an applicable exposure or averaging area – a procedure that should be specified in the ROD. In addition, for sediment, there is scientific consensus based on experience at hundreds of contaminated sediment sites that dredging is not 100% effective and post-dredging residuals are unavoidable. As such, use of a post-dredge cover or habitat restoration material is an integral and key component of Performance Standard development. Therefore, the post-dredge Performance Standards must be clearly defined as part of the ROD so that an appropriate remedy implementation approach can be developed as part of the RD.

The PRAP also does not provide clear guidance on the process to be used for selecting contingent remedial options or for addressing other unresolved questions that have major implications on remedy implementation. For example, the PRAP does not specify the criteria to be used to select the oxidant for in-situ chemical oxidation, or the metrics to be used for determining whether on-site sediment thermal treatment can be utilized. Given the significance of these unresolved issues on remedy implementation, the ROD should provide a clear framework, which will serve as the basis for how these decisions will be made during remedy implementation.

6. The ROD should allow for the conduct of pilot tests to collect data needed to optimize the remedial design.

The PRAP should anticipate and the ROD should make explicit the need for certain pilot tests as part of the RD. Pilot tests will be required for optimizing the sediment and groundwater remediation design and to test the Performance Standards that should be developed prior to and implemented via the ROD. The sediment pilot test will provide critical data needed for defining dredge operating parameters, minimizing mobilization of contaminants beyond the active dredge area, understanding the significance of dredge residuals/ resuspension and defining the thickness of the post-dredge cover material, *etc.* Groundwater remediation pilot tests will evaluate the effectiveness of various oxidants and collect data for developing an optimal design for a permeable reactive barrier.

7. The PRAP overstates the role of the MGP in causing the contamination observed at the Site and does not fully acknowledge the existence of other potentially responsible parties and the contribution from other sources.

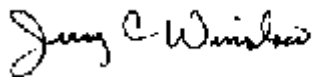
The PRAP overstates the role of former MGP operations in causing the Ashland Site contamination, but does not fully acknowledge other significant sources of NAPLs and PAHs at the Ashland Site, such as wood-treating, rail road operations, and City releases. Eyewitness accounts, historical records, and environmental forensic data make it abundantly clear that other parties are CERCLA PRPs for the Site due to their role (*e.g.*, as owners or operators) and their contribution to Site contamination (*e.g.*, as arrangers for the disposal of hazardous substances). The ROD should appropriately describe the various sources of the contamination observed in Kreher Park and the Bay.

8. All prior NSPW submittals to EPA (and/or WDNR) are incorporated into the Administrative Record.

Much work has been done on the Site since 1995. This includes technical and other information formally submitted by NSPW to WDNR prior to the Site being listed on the National Priorities List. As such, please note that NSPW hereby incorporates into these comments and into the Administrative Record all prior submittals to EPA (and/or WDNR) related to the Site and expresses its intent to rely on those prior submittals, including but not limited to those documents listed in Attachment B.

Again, we appreciate the opportunity to comment on the proposed remedy as provided for in EPA's Proposed Plan (June 2009) and trust that, based on the information NSPW and others have provided, EPA will select a safe, scientifically-sound, implementable, and cost-effective remedy for the Site.

Sincerely,

A handwritten signature in black ink, reading "Jerry C. Winslow". The signature is written in a cursive style with a large, stylized "J" and "W".

Jerry C. Winslow

Principal Environmental Engineer

Attachments (2)